Volunteer Lake Assessment Program Individual Lake Reports

CHASE POND, WILMOT, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	9,002	**Max. Depth (m):**	3.4	**Flushing Rate (yr^{1})**	62.5
Surface Area (Ac.):	39	**Mean Depth (m):**	1.9	**P Retention Coef:**	0.19
Shore Length (m):	1,800	**Volume (m^{3}):**	296,000	**Elevation (ft):**	704

TROPHIC CLASSIFICATION

Year	Trophic class
1989	OLIGOTROPHIC
1998	OLIGOTROPHIC

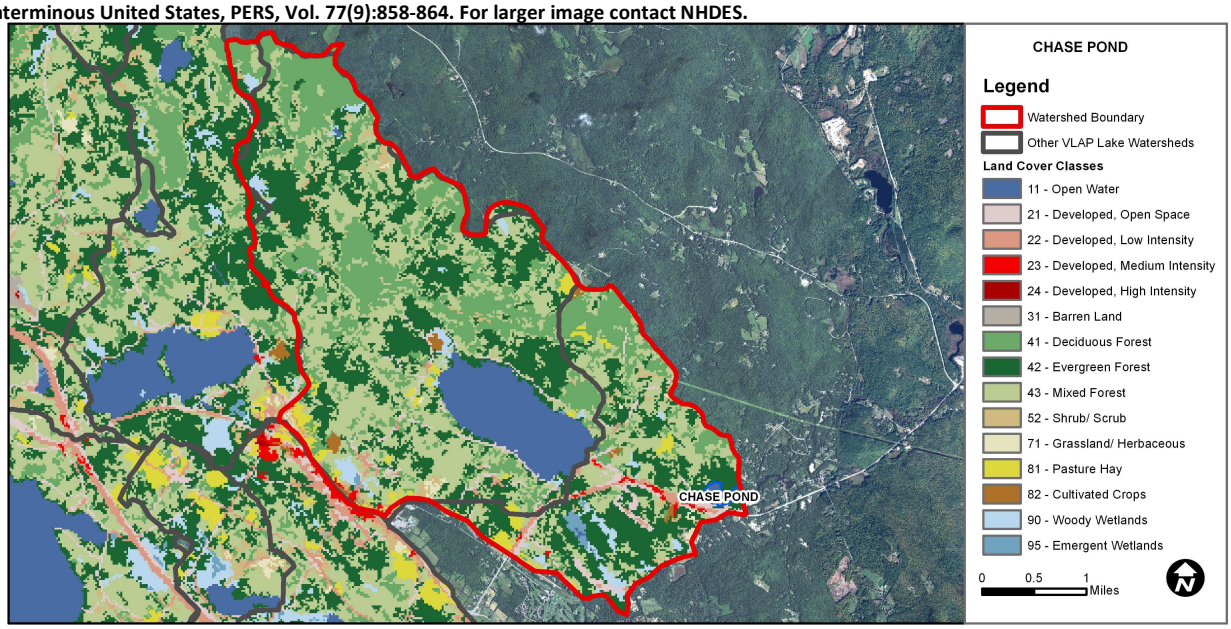
KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the DRAFT 2014 305(b) report on the status of N.H. waters, and are based on data collected from 2004-2013. Detailed waterbody assessment and report card information can be found at www.des.nh.gov/organizations/divisions/water/wmb/swqa/index.htm

Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Slightly Bad	The calculated median is from 5 or more samples and is > indicator and the chlorophyll a indicator is exceeded.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	Oxygen, Dissolved	Encouraging	There are < 10 samples with 0 exceedances of criteria. More data needed.
	Dissolved oxygen satura	Encouraging	There are < 10 samples with 0 exceedances of criteria. More data needed.
	Chlorophyll-a	Slightly Bad	The calculated median is from 5 or more samples and is > indicator.
Primary Contact Recreation	Escherichia coli	Good	There are geometric means and all geometric means are < geometric mean criteria; and there has been a single sample exceedance.
	Chlorophyll-a	Very Good	There are a total of at least 10 samples with 0 exceedances of indicator.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



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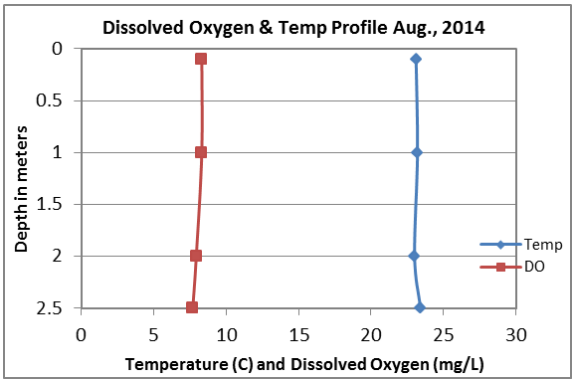
Chase Pond, Wilmot

2014 Data Summary

Observations and Recommendations (*Refer to Table 1 and Historical Deep Spot Data Graphics)*

- **Chlorophyll-a:** Chlorophyll levels were average in August and slightly less than the state median. Historical trend analysis indicates significantly decreasing (improving) chlorophyll levels since monitoring began. We hope to see this continue!
- **Conductivity/Chloride:** Deep spot and tributary conductivity and chloride levels were slightly greater than the state medians and epilimnetic (upper water layer) conductivity increased slightly from 2013. Historical trend analysis indicates highly variable epilimnetic conductivity since monitoring began.
- **E. coli:** Beach and Cove E. coli levels were much less than the state standards for public beaches (88 cts/100 mL) and surface waters (406 cts/100 mL).
- **Total Phosphorus:** Deep spot and tributary phosphorus levels were low and much less than the state median in August. Epilimnetic phosphorus levels decreased greatly from those measured in 2013 and historical trend analysis indicates relatively stable epilimnetic phosphorus with moderate variability between years.
- **Transparency:** Transparency was good and the Secchi disk was visible on the pond bottom in August. Historical trend analysis indicates relatively stable transparency with moderate variability between years.
- **Turbidity:** Deep spot and tributary turbidities were within average ranges for all stations.
- **pH:** Deep spot and tributary pH levels were within the desirable range of 6.5—8.0 units. However, historical deep spot pH levels have fluctuated below the desirable range. Historical trend analysis indicates highly variable epilimnetic pH levels since monitoring began.
- **Recommended Actions:** Increase monitoring frequency to once per month, typically June, July and August, to better assess seasonal and historical water quality trends and decrease variability. Conductivity and chloride trends are increasing in many NH lakes. Encourage local road agents and winter maintenance companies to obtain a NH Voluntary Salt Applicator License through UNH's Technology Transfer Center's Green SnowPro Certification program. More information can be found at www.t2.unh.edu/green-snowpro-training-and-certification**.** Keep up the great work!



Station Name	Table 1. 2014 Average Water Quality Data for CHASE POND									
	Alk. mg/l	Chlor-a ug/l	Chloride mg/l	Cond. uS/cm	E. Coli #/100ml	Total P ug/l	Trans. m		Turb. ntu	pH
							NVS	VS		
Epilimnion	7.4	4.03	10	63.5		8	2.85	2.70	0.98	6.90
Hypolimnion				62.6		7			1.04	6.81
Beach					2					
Cove					10					
Inlet			10	62.5		7			0.83	6.88
Outlet				62.9		7			0.94	6.85

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.
Chloride: > 230 mg/L (chronic)
E. coli: > 88 cts/100 mL – public beach
E. coli: > 406 cts/100 mL – surface waters
Turbidity: > 10 NTU above natural level
pH: between 6.5-8.0 (unless naturally occurring)

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.
Alkalinity: 4.9 mg/L
Chlorophyll-a: 4.58 mg/m^3
Conductivity: 40.0 uS/cm
Chloride: 4 mg/L
Total Phosphorus: 12 ug/L
Transparency: 3.2 m
pH: 6.6

Historical Water Quality Trend Analysis

Parameter	Trend	Explanation	Parameter	Trend	Explanation
Conductivity	Stable	Trend not significant; data highly variable.	Chlorophyll-a	Improving	Data significantly decreasing.
pH (epilimnion)	Stable	Trend not significant; data highly variable.	Transparency	Stable	Trend not significant; data moderately variable.
			Phosphorus (epilimnion)	Stable	Trend not significant; data moderately variable.